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Food Cooking Vessel with Temperature Indicating Means

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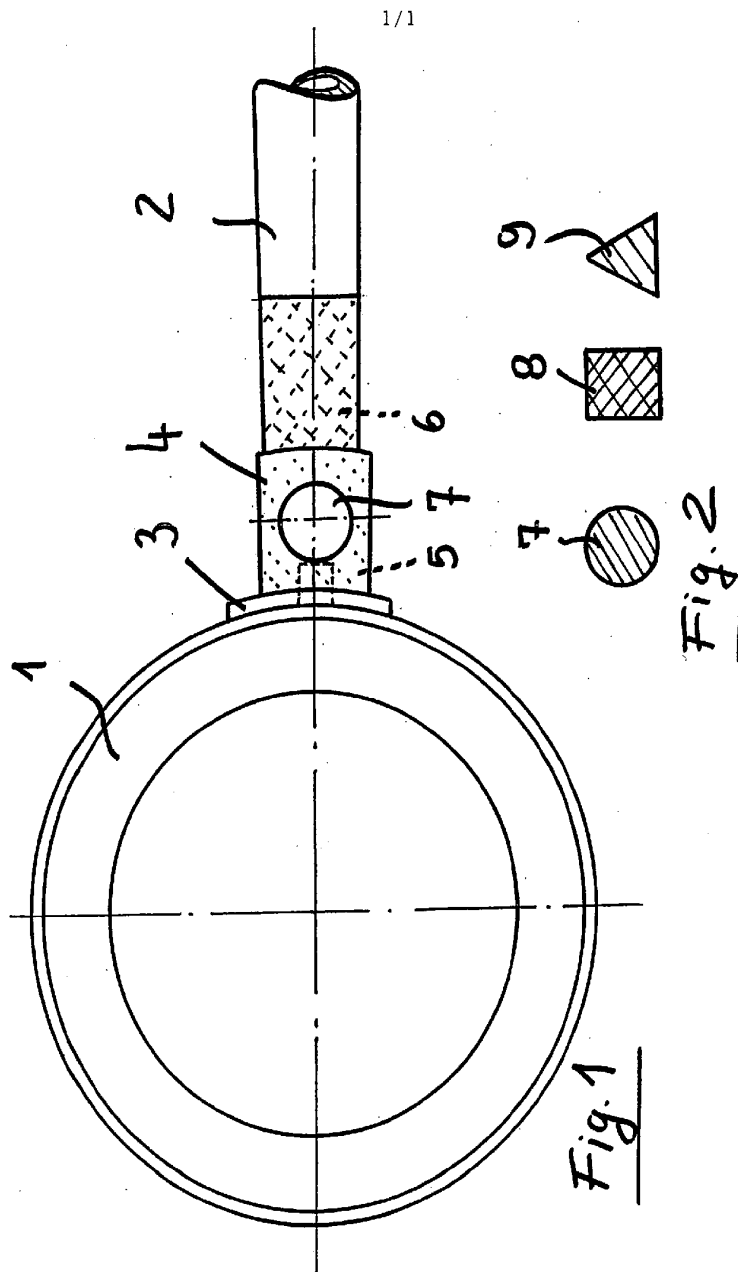
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FOOD COOKING VESSEL WITH TEMPERATURE INDICATING MEANS

Abstract

In a food cooking vessel (1), components of the vessel (1) arranged
s outside it are coated by a coating containing thermochromatic pigments
(5,6).

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COMPLETE SPECIFICATION

FOR A STANDARD PATENT

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Invention Title:	Food Cooking Vessel with Temperature Indicating Means

The following statement is a full description of this invention, including the best method of performing it known to me/us:-

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FOOD COOKING VESSEL WITH TEMPERATURE INDICATING MEANS

Field of the Invention

✓ The present invention relates to a food cooking vessel with temperature indicating means.

Background of the Invention

10 In using pots, it would be useful, both during and after the cooking step, to indicate that the pot has achieved a set temperature, and that the portions thereof are hot thereby allowing the user to take precautions against burns.

Pots or frying pans having at a central position of their bottom, a thermochromatic pigment containing coating indicating, by a color change, that the bottom has achieved a set temperature, are already commercially known.

15 However, this prior solution has the drawback that it indicates only and exclusively the temperature corresponding to the central region of the pot bottom, but not that of pot outer regions.

20 Moreover, with the food arranged in the pot, this chromatic indication cannot be seen, since the food being cooked covers the thermochromatic pigment coating.

Another prior art approach provides to use a thermosensitive liquid crystal device, the liquid crystals of which are embedded in the pot handle, which handle is for example made of a plastic material and projects from the pot body or vessel.

25 This prior thermosensitive liquid crystal device provides a

temperature indication, which, even in this case, is measured at the inner regions of the vessel. Such prior device, however, is very complex and expensive and, moreover, is susceptible to be easily degraded in operation, because of the high temperature of the cooking regions or the moisture and heat present inside a dishwasher.

5 It is desirable to provide a food cooking vessel including an improved means for signaling the achieved temperature, said means preferably being adapted to be arranged outside the vessel and advantageously applied, by inexpensive methods, on outer portions thereof.

10 **Object of the Invention**

It is an object of the present invention to overcome or ameliorate some of the disadvantages of the prior art, or at least to provide a useful alternative.

Summary of the Invention

15 The present invention provides a cooking vessel for preparing food, comprising constructional components which are arranged on the outside of the vessel and to which a sticker is attached which has a coating which contains thermochromatic pigments, wherein the sticker has different shapes, and different thermal sensitivities of the pigments are associated with each of these different shapes.

20

Brief Description of the Drawings

A preferred embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings, wherein:

Figure 1 schematically shows a top plan view of a cooking pot having a handle and outer coatings according to an embodiment of the invention;

Figure 2 schematically shows a series of indication labels to be applied on the outside of the pot.

Description of the preferred embodiments

Figure 1 shows a top plan view of a cooking pot 1 having a handle 2.

Advantageously, the inside of the pot 1 is coated by an antiadhering coating.

A fire or flame stop device 4 is coupled to the body of the pot 1 by a fire stop plate 3, of a per se known type. Both the fire stop plate 3 and the fire stop device 4 body are made of a metal material.

In this connection it should be apparent that it would also be possible to use other clamping systems, for example a screw stud, welded to the pot body, the handle being clamped by a clamping screw.

A tubular body projects from the fire or flame stop device 4, said tubular body receiving a handle 2 made of a metal or wood material, or also of a synthetic material.

It should be pointed out that the term "pot" would also

obviously comprise other cooking containers or vessels, such as, for example, frying pans, stewpans and like containers or vessels.

The outer constructional parts of the vessel 1 are provided
5 with coating layers containing thermochromatic pigments having a variable thermal sensitivity.

Such a coating will further comprise pigments which, depending on the achieved temperature, will change their colors, for example from a starting black color (as the vessel 1
10 is at environment temperature) to a red or red-orange color, as the vessel is heated for example to the cooking temperature, which can vary from 150°C to 240°C.

Thermochromatic pigment containing coatings are known in the prior art, and are made, for example, by the firm Keystone.
15 Figure 1 shows different manners for detecting and indicating the temperature of the inside of the vessel 1.

Thus, for example, the body of the fire stop tubular device 4 can be coated, before assembling it by the plate 3, by a thermochromatic pigment holding coating layer 5.

20 It would be also possible to arrange the thermochromatic pigment holding coating at any other technically suitable places.

A further possibility would be to provide the handle 2 with a thermochromatic pigment holding coating 6 and, finally, it
25 would be also possible to apply, by glueing it on the fire stop

body 4, or on the handle 2, a label 7 coated by a thermochromatic pigment holding layer.

Such a label 7 would provide the advantage that, after a given period of use of the vessel 1, and upon deteriorating the thermochromatic pigment, the label 7 could be removed and
5 replaced by a new one.

Moreover, said labels provide the advantage that they can be series made at a low cost and can be quickly and easily applied.

10 Moreover, said thermochromatic pigment holding labels can have different patterns, for a better disposal of thereof. As shown in figure 2, the label 7 has a circular configuration, whereas a label 8 can have a square configuration and a label 9, for example, a triangular configuration.

15 The different configurations of said labels 7, 8 and 9 allow moreover to make and facilitate the use of different thermal sensitivity labels. Thus, for example, a label could comprise thermochromatic pigments changing their colors at temperatures of about 80-100°C.

20 A further label can have a coating changing its color at a temperature of about 150°C and yet another label could hold therein a thermochromatic pigmentation changing its color starting from 180°C to 240°C, and this only to provide some examples.

25 The great advantage provided by the present invention should

be envisaged in the fact that the thermal indicating means are arranged inside the vessel. The indicating coating can be applied on different outer components of the vessel, for example on the projecting fire stop body, on the fire stop body
5 mounting plate or directly on the handle, fitted in the tubular body of the fire stop body or device.

It would also be possible to apply to adjoining regions said thermochromatic pigment holding coatings, which would be sensitive to different temperatures.

10 In a particularly advantageous manner, the thermal indicating or signalling coating is applied by a spraying type of applying method.

It would be furthermore advantageous to apply said thermochromatic pigment holding coating by a screen printing
15 method.

Moreover, it has been found as advantageous to apply the thermal signalling or indicating pigment holding layer by a buffering system and, finally, it would be also advantageous and possible to apply the thermochromatic pigment holding
20 coating layer by using transfer printing methods.

The claims defining the invention are as follows:

1. Cooking vessel for preparing food, comprising constructional components which are arranged on the outside of the vessel and to which a sticker is
5 attached which has a coating which contains thermochromatic pigments, wherein the sticker has different shapes, and different thermal sensitivities of the pigments are associated with each of these different shapes.
2. Cooking vessel according to Claim 1, wherein the coating which contains thermochromatic pigments is applied by means of a spraying method.
- 10 3. Cooking vessel according to Claim 1, wherein the coating which contains thermochromatic pigments is applied using a screen-printing method.
4. Cooking vessel according to Claim 1, wherein the coating which contains thermochromatic pigments is applied by means of buffering methods.
5. Cooking vessel according to Claim 1, wherein the coating which
15 contains thermochromatic pigments is applied using decals.
6. A cooking vessel substantially as hereinbefore described with reference to the accompanying drawings.

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Ballarini Paolo & Figli S.p.A

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